Comparison of Voluntary HIV Testing in a Sentinel vs. Non-Sentinel HIV Site: Apam vs. Mampong, Ghana

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BACKGROUND

- HIV outbreak in Ghana: First documented case 1986, believed to have been brought to Ghana by commercial sex workers returning home from Ivory Coast (1).

- HIV prevalence rates estimated by HIV sentinel study which utilizes data from selected ANC (antenatal clinic) sites throughout differing regions of Ghana.

- Although HIV prevalence is relatively low in Ghana compared to other parts of Africa, numbers of people living with HIV / AIDS in Ghana is increasing (2).
REGIONAL HIV PREVALENCE IN GHANA

- Rates vary from 1.9% in the Northern Region to 4.7% in Eastern Region of Ghana
- Sentinel HIV site: Mampong (Ashanti region):
  - estimated prevalence 3.0%
- Non-sentinel site: Apam (Central Region)
  - Estimated prevalence 2.9%

2 study sites: Mampong and Apam

USAID, ARV Management in West Africa: A Case Study, March 15, 2007
Governmental Efforts to Combat HIV / AIDS in Ghana

- National AIDS control Program established in 1987
- PMTMC (Prevention of Mother-to-Child Transmission)
- 2003: National ART program implemented
- At end of 2007, 95 ARV sites and 422 PMTCT sites have been established (3)
PROBLEM:
Incomplete ART Coverage

- National ART program + NGO’s and commercial sector provided ARV’s to roughly 15,000 people in 2006.

- Estimated 67,000 individuals requiring ARV tx in 2006, leaving 52,000 people WITHOUT ARV access.


Insufficient ARV coverage in Ghana must be a multi-factorial problem with problems occurring at level of community (stigma, lack of education, failure to present to hospital for dx and tx); physicians (failure to provide diagnosis); and administration (inefficient service).
STIGMA against HIV in many cases hindered physicians from referring patients for HIV testing (HIV CANNOT be said in presence of patient)

Under-use of HIV screening services

Patients diagnosed in terminal stages of illness, often in a non-ambulatory state. Under these conditions, travel to gain ARV treatment may no longer be possible.
How does HIV testing vary at sentinel vs. non-sentinel sites?

- Comparison study of HIV testing trends in 2 sites: Apam Catholic Hospital Hospital (Central region) vs. Mampong Hospital (Kumasi region).

- **HYPOTHESIS:** Given that Mampong is a sentinel HIV site with provision of ARV’s, there will be less resistance to HIV testing in Mampong, resulting in increased numbers of patients presenting voluntarily for HIV testing and counseling.
METHODS

- Apam, Mampong: Record search of HIV test results from all patients who presented for VCT or were referred by physician for HIV testing between January 2007-March 2008, excluding PMTMC data, in order to study trends of HIV testing either voluntarily or by physician referral.

- Formal interviews with local physicians to gauge attitudes toward HIV testing and the barriers thereof.
GHANA HIV TESTING POLICY

- 2 routes of HIV diagnosis:
  - Physician referral
    - Immuno- suppressed patients (most frequent signs / sx include LOW, weakness, chronic diarrhea, chronic cough.
    - TB patients
  - Self-referral or VCT (Voluntary Counseling & Testing)

ALL patients undergo pre- and post-test counseling as part of the testing process.
In Ghana, blood frequently donated by family members of individuals needing transfusion so as to avoid costs of purchasing from blood bank.

The blood is screened for HIV, but results are not reported due to requirement for counseling to be rendered to patient before results given. HIV-contaminated blood is thrown out.

Blood donor data from both sites was used as a “random” sample to compare regional HIV prevalence.
# APAM Catholic Teaching Hospital vs. Mampong

<table>
<thead>
<tr>
<th>APAM</th>
<th>Mampong</th>
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<tbody>
<tr>
<td>No ARV treatment provided</td>
<td>ARV treatment available since November 2007</td>
</tr>
<tr>
<td>No laboratory equipment to check CD4</td>
<td>Laboratory equipment available to check CD4</td>
</tr>
<tr>
<td>VCT performed on-site by Catholic priest trained by district</td>
<td>VCT performed by 5 rotating individuals trained by district</td>
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HIV TESTING PROTOCOL: APAM VS. MAMPONG

APAM

Referral to Cape Coast For CD4 count and ARV therapy

Pre-test counseling

Post-test counseling

MAMPONG

CD4 check

> 250

< 250

Re-check CD4 in 6 mos.

Check LFT at private Clinic (13 GCD)

Initiate ARV tx
APAM: 237 (VCT + physician referral) patients tested in 2007
- 93.7% of patients sent for testing via physician referral (group HIV prevalence: 38.8%)
- 4.4% of all patients presented for VCT (9.1% HIV prevalence)

Large # of blood donors (all undiagnosed)
- HIV prevalence in this “random” sample: 2.62%
MAMPONG: 421 (VCT + physician referral) patients tested in 2007
- 78.9% sent by physician referral (56.6% HIV prevalence in this group)
- 21.1% of tested and diagnosed patients via VCT
- 42 people from mobile HIV testing site for World AIDS Day in (Bosomkyekye); 47 people presenting voluntarily to Mampong Hospital

260 blood donors, 20 positive
- HIV prevalence in this group 7.7%
Absolute number of HIV tests and % VCT testers increased for First Quarter 2008 in Mampong

- VCT patients for First Quarter accounted for 25.5% of all patients tested and diagnosed in First Quarter, physician referral 74.5%

No data for Apam first quarter 2008
Summary of data: Apam vs. Mampong 2007

- 248 (VCT + physician referral) patients for Apam 2007 vs. 421 patients in Mampong in 2007
  - Apam VCT patients: 4.4% of total
  - Mampong VCT patients: 27.5% of total

- HIV Prevalence in blood donors in Apam: 2.62% (n = 764)
- HIV Prevalence in blood donors in Mampong: 7.7% (n = 260)
Summary of Data First Quarter 2008

- No data tabulated for Apam first quarter 2008

- Mampong showed increased absolute number of VCT patients as well as % of VCT cases for First Quarter of 2008 as compared to previous quarters.
Women in age groups of 30-34 and 35-39 disproportionately affected in both communities

Apam: 91 positive HIV tests (66 F, 25 M)

Mampong: 130 positive HIV tests (101 F, 29 M)
DISCUSSION
Physician Referral vs. VCT

- Physician referral is an important tool for dx of HIV that accounts for the majority of diagnoses in Ghana. However, the **PROBLEM** is that many people present to hospital in terminal stage of illness, at a stage too late to provide interventional efforts to curb transmission to others.

- VCT, on the other hand, allows for earlier diagnosis of HIV status and provides opportunity for behavior modification with education.
Stigma, HIV testing and ARVs

- Previous studies have shown that STIGMA presents a barrier to HIV prevention efforts because people are less willing to be tested for and disclose their HIV status in sites where treatment is unavailable (5).
More VCT at Sentinel HIV Site

- In concordance with the hypothesis, higher use of HIV testing services seen in Mampong, a sentinel HIV site with on-site access to ARVs.
  - VCT services, which reflect community desire to know their HIV status, much more heavily frequented in Mampong vs. Apam.
  - The increased numbers may reflect more patients willing to test where treatment is available.
- Increased number of VCT patients in First Quarter of 2008 in Mampong may be due to ARV accessibility relatively recent in Mampong (since November 2007).
Physician responses to interview questions at different study sites reflect differences in treatment capabilities in different study sites and suggest that stigma is less of a barrier in treatment site.
Physician’s Interviews at Different Study Sites

**Apam:**
- Main barrier to approaching diagnosis: STIGMA
- Lack of confidentiality of health care staff viewed as a problem: YES
- Patient ability to access ARV a problem: Yes, because must travel to Cape Coast for ARV and CD4 count. Physicians state that they would refer more patients for testing if ARV tx provided on site.
- HIV screening is not widely practiced; HIV tests viewed mainly as a diagnostic tool for those patients in dire need of treatment rather than a preventive tool to capture those at risk and prevent further transmission.

**Mampong**
- Main barrier to approaching diagnosis: LACK OF AWARENESS OF TESTING SERVICES, TRANSPORT (ex. Bosemkyekye)
- Lack of confidentiality of health care staff viewed as a problem: YES
- Patient ability to access ARV a problem: ARV’s available on-site therefore access not a problem. However, tx cannot be started until LFT’s checked in private facility for 13 GCD.
- HIV screening is encouraged and HIV testing is seen as a preventive tool rather than a purely diagnostic tool.
HIV Prevalence in Apam vs. Mampong Blood Donors

- According to the NACP, HIV prevalence slightly higher in Mampong vs. Apam (3.0% vs. 2.9%).

- Blood donor data, which should reflect a random sample of the population, accurately reflects these statistics for Apam (2.62%); however the blood donor data from Kumasi had a much higher prevalence (7.7%).
Blood donors: Anomaly or Evidence of Burgeoning Infection?

- Although record high numbers of HIV infection have been recorded in the Kumasi area, with 15% HIV prevalence occurring in some blood donations (patterns), the Mampong region has never reported such a high HIV prevalence.

- Although the higher prevalence in the Mampong region may account for the higher number of physician referrals seen in Mampong vs. Apam, it should not be responsible for the increased number and % of VCT patients.
CONCLUSION

- Voluntary counseling VCT is more heavily utilized in a sentinel HIV site vs. a non-sentinel site, suggesting that testing trends may be influenced by the availability of ART on-site.

- Higher numbers of VCT and physician referrals in sentinel HIV site suggest that incentive to both offer and consent to an HIV test increases in an ARV site.

  Implications: De-centralization of ART program and increasing accessibility of ARV therapy to non-sentinel HIV sites may reduce HIV test stigma and encourage more people to come in for VCT.
Further suggestions

- Encourage blood donors to receive counseling and follow-up with their HIV test result.
- Workshops on confidentiality within the workplace, especially as it pertains to HIV.
- Increased efforts to ensure patient confidentiality (i.e. dx codes 279 and 280 written in all HIV VCT book records).
REFERENCES


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